Supplement to WILMINGTON JOURNAL.

WILMINGTON, N. C.

SOLUBLE PACIFIC GUANO.

JOHN S. REESE & CO., Sole General Agents for the Company, Baltimore, Md.

WM. H. McRARY & CO.

Selling Agents,

WILMINGTON, N. C.

NOTE.—Every package of this Guano is branded with the name of JOHN S. REESE & Co. None other genuine.

INTRODUCTION.

Under the present labour system of the South, it is the manifest policy of planters to make every acre put under cultivation produce its maximum yield of saleable product. The labour employed must be made to yield the highest possible results. One acre can be made to produce, by the liberal use of concentrated fertilizers and high culture, as much cotton and corn, with less than one-half the labour, as three acres without these appliances. This result has been repeatedly obtained, and is thoroughly practical. The availability of a fertilizer combining the qualities of the greatest activity with those of permanently benefiting the soil, is of the utmost importance to this end.

The Guano treated of in this Supplement is so highly commended after practical use by many of our planters, that it must prove an object of the highest interest to our agricultural readers.

The subject is susceptible of most interesting consideration, and should receive that attention which its importance demands.

SOLUBLE PACIFIC GUANO.

Its composition compared with Peruvian Guano. The reasons why it is a better fertilizer for the culture of COTTON, CORN *and* TOBACCO. *Its importance as conducing to permanent improvement of soils. Its economy.*

The composition and character of this Guano is identical with that of Peruvian Guano. It contains the same elements, and is of the same *ultimate* origin. It differs from Peruvian simply in the *proportions* in which the *same elements* of fertility exist to each other.

That this difference constitutes it a fertilizer better adapted to the culture of cotton, corn and tobacco than Peruvian Guano, we think will be made manifest by the following considerations:

All who have given the subject attention know that *animal matter yielding Ammonia, Soluble Phosphate*, and *Bone Phosphate of Lime*, are the substances or elements which constitute the value of Peruvian Guano, and all commercial fertilizers. This is a matter of neither doubt or uncertainty, but of fact. Hence, as the results of chemical analysis, by *competent* chemists, are definite and certain, there is no difficulty in arriving at the *actual* value of any fertilizer brought into market. The same results must follow from the same agencies found in any other Guano, with modifications arising from different proportions of the elements.

Knowing, therefore, both the *excellencies* and *defects* of Peruvian Guano, arising from the quantity and proportions of its elements, we have a basis of facts from which deductions may be made, as to the causes of certain known results.

COMPOSITION OF SOLUBLE PACIFIC GUANO.

The following is the composition of this Guano; the proportions and quantities of the elements here given being the average of 16 cargoes consigned to this Agency and discharged at Baltimore, taken from authentic inspection reports of Doctors Piggot and Liebig, analytic chemists:

Nitrogenous animal matter	36.10 per cent.
Yielding ammonia	3.33
Phosphate of Lime soluble	15.68 " "
Bone Phosphate of Lime	24.62 " "
Incombustible matter and moisture	23.60 " "

The following is the composition of Peruvian Guano, taken from official inspection reports in this market:

Nitrogenous animal matter	55 to 60 per cent.
Yielding ammonia	12 to 15 per cent.
Bone Phosphate of Lime	28 " 25 " "
Incombustible matter and moisture	17 " 15 " "

A part of the phosphoric acid in Peruvian Guano *stated* as phosphate of lime exists as phosphate of ammonia, and is soluble, but the quantity so existing is small.

It will be seen by a comparison, that while *Sol. Pacific Guano* contains less animal matter and *ammonia* than Peruvian, it contains in all *nearly double* the quantity of Phosphate of Lime; and that considerably more than *one-third* of the whole exists in a form *immediately soluble.*

Now the practical question is, does this proportion of the same elements constitute it a better fertilizer than Peruvian Guano. An answer to this important inquiry can best be given by calling attention to the *defects*, manifested in the use of Peruvian Guano, and considering the causes from which they arise.

THE DEFECTS OF PERUVIAN GUANO AND THEIR CAUSES.

Every planter who has applied Peruvian Guano for more than one or two seasons has noticed: *First*, That if the season prove favorable (or seasonable) the tendency is to an *excessive* growth of the weed, which proves to greater or less extent detrimental to the yield of saleable product. The cause of this defect is unquestionably due to the excess of animal matter and ammonia, in the Guano, which from its highly stimulating effect, (or a result analogous thereto.) superinduces an excessive vegetable growth, while on the other hand the supply of Phosphate of Lime is inadequate to sustain the vegetable growth and furnish the supply needed to develop the fruit.

Secondly, If drought intervene after Peruvian Guano is applied, it is noticed that however well the crop may have started, its growth is suspended; the crop "fires," and if the drought be prolonged the investment proves a comparative, if not total loss.

This defect is the result of two causes: *First*, The excess of nitrogen or ammonia in the Guano superinduces the development of an unnatural quantity of *sap* and *juices* in the plant; the intervention of drought prevents the decomposition of the Guano by reason of the absence of sufficient moisture, which suddenly cuts off the supply of sap, and consequently the plant *rapidly fails*; a result analogous to that produced in the human system by the sudden suspension of stimulants. The second cause is found in the fact that nearly all the Phosphate found in Peruvian Guano exists simply as *neutral* or *bone* phosphate, which is not immediately soluble, but is converted into soluble phosphate during the process of the decomposition of the Guano. Ample moisture is a *necessary condition* to this result, hence the absence of sufficient moisture in consequence of drought prevents the conversion into soluble form, and the plant cannot take up the undissolved phosphate.

Thirdly, It is almost universally conceded, especially by those who have continued the use of Peruvian Guano through a period of years, that its effect is to diminish the productive power of the soil. This result has been so manifest in those parts of the country where it was first introduced that it has fallen almost into disuse. In Maryland not one-tenth of the quantity is now consumed that formerly was. We hold it capable of a rational demonstration, that the continued use of Peruvian Guano for a period of 15 years, in quantity *as usually applied*, must result in ruinous depreciation to any ordinary soil. Certainly this is a material defect. Its cause is found in the fact that the only element in Peruvian Guano that can contribute to permanent improvement is *Phosphate of Lime.* Of this element it contains the small quantity of 25 per cent.; hence, in an ordinary application of the Guano, the soil does not receive a supply equivalent to the loss sustained in the production of the crop removed, and the inevitable result is depreciation, which becomes manifest after continued use. Improvement can only be had by the application of a larger quantity than is removed; this cannot be done by the use of Peruvian Guano, without the *useless*, *injurious* and *extravagant* waste of ammonia.

That the foregoing results, noticed in the use of Peruvian Guano, constitute important defects, is manifestly true. That they are due to the causes named does not admit of a rational doubt.

THESE DEFECTS DO NOT EXIST IN SOLUBLE PACIFIC GUANO.

First, This Guano contains about one-fourth the quantity of ammonia found in Peruvian; hence the effects arising from an excess of that element are not manifested in its use. That this quantity of ammonia, accompanied with *ready formed* soluble Phosphate of Lime, manifests equal effects in the early stages of the crop is demonstrated by experience.*

Secondly, The quantity of Phosphate of Lime in this Guano is nearly double that found in Peruvian, hence it supplies the soil with a quantity greater than is removed by the crops, and thus necessarily enhances its productive power.

Thirdly, More than *one-third* of its large quantity of *Phosphate of Lime* exists as *ready formed soluble* phosphate, hence its action is not *contingent* to near the same extent as Peruvian, upon the presence of moisture; therefore, in the event of *drought*, crops fertilized with it continue their growth, and do not *fire* and *fail* as when fertilized with Peruvian. That its effects are *modified* by protracted drought is true, but not to one-fourth the extent as is the case with Peruvian Guano.

Fourthly, For purposes of rapid improvement it may be applied in *large* quantities without *loss* or *detriment* arising from waste of ammonia.

If the use of Pacific Guano confirms the deductions made, then we have *a demonstration* that the defects of Peruvian Guano arise from the causes named, and further, that this Guano is a fertilizer of *greater real value* to the agriculture of the country than Peruvian Guano.

Pacific Guano was used on the last cotton, corn and tobacco crops in all the Southern States, with results *fully* and *entirely* sustaining our deductions. The testimony of planters from all parts of the South must be accepted as conclusive evidence as to the fact. We and our Agents are prepared to furnish an array of concurrent testimony on this point that must convince all who can be convinced of any fact by human testimony.*

Another fact of material importance in relation to this Guano is its economy. While its value is actually greater its cost is materially less, its price being from $20 to $30 less per ton than Peruvian. The reason of this difference in price is, that it is owned and controlled by *American citizens*, and not by a foreign government, hence it is not subject to the same advance arising from the premium on gold. The packages of this Guano are branded with the name of John S. Reese & Co. None other is genuine.

JOHN S. REESE & CO.,
GENERAL AGENTS
FOR THE SOLUBLE PACIFIC GUANO CO.,
Office 71 South Street, Baltimore, Md.

*See Correspondence on next page.

The following table exhibits the analysis of 16 cargoes Soluble Pacific Guano, the average of which is given as the basis of comparision with Peruvian. The original authenticated manuscripts may be seen at our Office. The cargoes do not stand in the order of their arrival.

NAMES OF VESSELS.	Per cent. of animal matter.	Per cent. ammonia yielded.	Per cent. of soluble Phosphate.	Per cent. of bone Phosphate.	By whom Inspected.
Cargo per Mary E. Amsden	35.99	3.4	16.40	22.93	Dr. Piggot.
" " Carrie Melvin	33.02	3.36	16.63	22.11	" "
" " Trendillin	36.00	3.13	16.47	23.09	" "
" " Grace Clifton	37.06	3.04	15.04	26.74	" "
" " Onedia	35.36	3.28	14.00	23.79	" "
" " Emily	32.72	3.44	17.38	20.82	" "
" " Damon	35.11	3.05	14.17	22.51	" "
" " Bircherd & Torry	35.51	2.97	15.94	21.74	" "
" " Lacon	38.04	3.59	17.10	26.07	Dr. Liebig.
" " Jos Walpler	31.98	3.33	15.37	25.30	Dr. Piggot.
" " Flyaway	35.11	3.52	12.90	28.40	Dr. Liebig.
" " Clara Elwell	40.45	3.63	15.19	28.75	Dr. Piggot.
" " Lucy A Orcutt	36.05	3.25	14.80	28.12	" "
" " Ira Laffrenier	37.83	3.41	15.10	24.51	" "
" " Paladium	39.71	3.40	17.07	24.32	" "
Average 16 cargoes.	36.10	3.33	15.68	24.62	

BALTIMORE, DECEMBER, 1866.

Attention is invited to the annexed statement by Dr. A. Snowden Piggot, analytic chemist, in relation to the inspection of Soluble Pacific Guano, from which it will be seen that the business of this Agency is conducted on the only correct principles adapted to the prosecution of this important trade, for the protection and safety, both of the buyer and seller.

JOHN S. REESE & CO., *Gen'l Agents.*

ANALYTICAL LABORATORY, 59 GAY STREET, BALTIMORE.

I hereby certify that I am in the habit of inspecting every cargo of *Soluble Pacific Guano* arriving in this market consigned to John S. Reese & Co.

The samples for inspection are taken by myself or one of my assistants, without the interference or presence of any one connected with the sale of the Guano.

A perfectly fair representative of the lots actually offered for sale is thus obtained, since the samples are taken direct from the packages in which it is sold. The sample thus taken is inspected by actual analysis in this laboratory, and the report is based in all cases upon the results of a veritable sample of the cargo.

It is only just to the agents of this valuable Guano to state that it is remarkably uniform in its quality and composition, and that recent importations contain more *soluble phosphoric acid* than previous cargoes, and are, therefore, to that extent superior.

[Signed] A. SNOWDEN PIGGOT,
Analytic and Consulting Chemist.

Correspondence from Edgecombe Co., North Carolina.

We invite especial attention to the following communication from Edgecombe county, N. C. The writer, Mr. Robt. Norfleet, is well known, both in his own and other States, as a most successful planter, and was for many years identified with the great agricultural improvements made in the county of Edgecombe. The system of improved culture, and the liberal use of fertilizers in that county, has rendered it famous for its large products of cotton. The crop of Edgecombe county was increased over 400 per cent. in a period of fifteen years, up to 1861. The same results are practical throughout the South, if similar appliances are used.

Tarboro, Edgecombe Co., N. C., Dec. 27th, 1866.

MESSRS. JNO. S. REESE & Co., Baltimore.

Gentlemen: Your favor asking information in regard to the effect of "Pacific Guano" on the cotton and corn crops of this County and the most popular method of its application, came to hand a few days ago, and I have sought the first leisure moment to reply.

I believe the fertilizer above mentioned, constituted two thirds, or at all events one half of all the bought manures that were used here on the cotton crop of the past season, and if I may judge from the applications that have been made to me to furnish it for the next, I should certainly pronounce it the most popular fertilizer that has ever been introduced into this section, so proverbial for high manuring with commercial and home made materials, and large productions of cotton and corn.

I was not at all surprised that the Pacific Guano made so favorable an impression on those who used it, as I was induced to believe from reading the reports of the analysis of this guano, made by the distinguished chemists of your city. Doctors Liebig and Piggot, who concurred in the opinion, that it contained in its composition, such a combination of elements in quantity and condition, as to render it an extraordinary and exceedingly valuable manure, eminently adapted to the wants of the cotton plant. The opinion expressed by Doctor Piggot, which was so fully verified in the past season, that this guano contained a peculiar quality that would "give to the young plant great vigor in the first commencement of its existence," places it in the catalogue of fertilizers at the head of the list. A guano or manure that has the tendency to hasten the growth of the cotton plant from the time of its coming up to maturity even under the most unfavorable circumstances, as was the case last spring, is or ought to be highly valued by the planter, as it is equivalent in this latitude, to the addition of two or three weeks to the cotton season.

As to the "Flour of Bone" nothing can be said in its behalf, than has been said before and repeated thousands of times. Even before the raw bones could be reduced to a powder as it is now by machinery, it was used in all the older countries that had made much agricultural progress. In the condition you furnish it, mixed with such other material as will hasten its decomposition, I conceive it to be second to no other fertilizer, for the crops of all kinds, grown in this state. I have used Pacific Guano and the Flour of Bone in equal quantities mixed in my garden the past season. I have never had so good a garden before, and am compelled to attribute it to the manure used. Such manures as answer a good purpose for garden crops, where plants are maturing at all seasons of the year, never fail in favorable seasons to produce good *field* crops. Many of our planters used the two manures combined, some using 100 pounds of each, others 130 pounds of guano, and 70 pounds of bone per acre, thoroughly mixed and sown in the drill or furrow. This mode is gaining favor, especially with such of our farmers or planters who are firmly of the opinion that 200 lbs. of the guano is more than ought to be used in the drill unless mixed with some other less active material. This may be a new and singular idea and perhaps an erroneous one, but there was certainly much force in the argument of one of our best farmers who takes that ground and acts upon it.

It had for many years before the late war been a custom of our planters to mix all of their concentrated manures such as guano, cotton seed, stable manure, &c., with swamp mud, woods mould, ditch banks, &c., in such quantities as to afford about 500 bushels of the compost to the acre for cotton. This work was usually put through between the 15th December and the 1st of March, at the cost of much hard work to hand and team. It was persisted in however, as it was considered the most speedy manner of improving the land, and the surest system of producing large crops while the improvement was going on, but now that the labor of the negro cannot be controlled as it was then, and has an unconquerable aversion to this kind of work, and have pretty much their own way in all things appertaining to field work, it is to be presumed that this method of manuring will have to be relinquished, and some other adopted that it is to be hoped will answer as good or better purpose. If it should give rise to deeper and better ploughing, more thorough drainage, and other improvements of which there is much need, the time may come and that speedily, when it may be considered a fortunate occurrence that the whole system was broken up.

It is important in using guano to instruct the laborers to apply it as equally as possible in the furrows. To attain this end the proper quantity for a furrow, fifty or a hundred yards in length should be weighed to each hand, and let him try it, and see how near he can come to making it hold out. Let this be repeated until he gets accustomed to spreading it evenly along the furrow, which if he has any tact, will be much sooner than one would suppose at the first trial. *No one need expect the full benefit from the guano, unless this matter is attended to and accomplished.*

I have heard of two persons who used guano for the corn crop. Both of these speak highly of its effect. A much larger quantity in my opinion should be applied to corn than cotton, and it should be used broadcast.

To give you a better idea of the effect of the Guano by itself and the guano and bone flour mixed, I will give you the statements of several of our best farmers who authorized me to do so if you desired it. I will mention here that of the large number of persons who bought these fertilizers last spring, I have heard but *two* speak of them in a way that could be possibly construed as unfavorable. One of these used 5 tons each of Pacific Guano, Flour of Bone and Peruvian Guano, and if he can save it will as he states make 190 bales weighing 400 lbs. each on 190 acres of land. The other used 5 tons Pacific and 5 tons Peruvian Guano, and will make 130 bales. The latter has not said that he will use no more Pacific, but he is very emphatic in declaring he will never use any more Peruvian Guano. These gentlemen certainly have cause to complain. The former especially. What! only *one* bale of cotton per acre!

Mr. Jesse Mercer, a practical farmer, and a man of sterling integrity, made an experiment last season with the following manures: Peruvian Guano, Patapsco Guano, *Pacific Guano*, Baugh's Raw Bone Phosphate, and Coe's Superphosphate of Lime. The PacificGuano used in this experiment cost $76 per ton laid down here, the quantity used in the experiment was 35 lbs. which made 80 lbs. more cotton than the unmanured land of the same size laying alongside of the manured. Or in other words, the land without manure made 60 lbs. The guanoed land 140 lbs.

The Peruvian Guano cost $120 per ton. 35 lbs. were used on land adjacent of the same size and resulted in a product of 119 lbs., the unmanured land along side produced 70 lbs. The Peruvian cost 60 per cent. more than the Pacific Guano, while the Pacific in the above experiment shows in the yield of cotton a gain of 133¼ per cent. and the Peruvian about 72 per cent. As regards the other fertilizers used in the experiment, I prefer to say nothing, as the agents for their sale at this point can do so if they think proper.

Mr. C. B. Killibrew opened his cotton furrows and applied in the drill the usual compost manure in the drill and then sowed Pacific Guano at the rate of 100 lbs. per acre, leaving six or eight furrows without guano. The guanoed land produced an excess of 200 lbs. over the land with compost only.

Mr. William F. Knight applied 200 lbs. of Pacific Guano and averaged 500 lbs. more cotton than the unmanured land produced. He made 1050 lbs. of cotton in the seed per acre and had 150 acres in cultivation.

Doct. Wm. G. Noble used 200 lbs. of Pacific Guano per acre and averaged about 400 lbs. of seed cotton in excess of the unmanured land.

Mr. Blount Bryan used three tons of Guano. He left one row unmanured in order to see what effect the manure would have. He picked less than half from that row, than the adjoining one manured.